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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,959	12/22/2003	Robert S. Beach	IBM1P044A/SJ09-2000-0124U	9362
28875	7590	03/22/2005	EXAMINER	
Zilka-Kotab, PC			KIM, PAUL D	
P.O. BOX 721120			ART UNIT	
SAN JOSE, CA 95172-1120			PAPER NUMBER	

3729

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,959

Applicant(s)

BEACH, ROBERT S.

Examiner

Paul D Kim

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 9-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7 and 8 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This office action is a response to the restriction requirement filed on 1/20/2005.

Response to the Restriction Requirement

1. Applicant's election with traverse of Group I, Species B, claims 1-4 and 6-8, in the reply filed on 1/20/2005 is acknowledged. The traversal is on the ground(s) that the species are not patentable distinct. Upon further consideration, examiner agrees with the applicant's counsel that the election of species for Group I and II are not required. Therefore, examiner hereby withdraws the election of species of the last final office action mailed on 10/12/2004. However, because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement between Group I and II, the election of Group I has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 9-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/20/2005.
3. Examiner discussed the response to the election of the restriction requirement filed on 11/03/2004 and received authorization for the election of species was given in a telephone interview with Mr. Kotab on 3/15/2005.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A METHOD OF MANUFACTURING
MAGNETIC RECORDING GMR READ BACK SENSOR--.

Claim Objections

5. Claims 1-8 are objected to because of the following informalities:

Re. Claim 1: The phrase "the magnitude" as recited in line 13 appears to be --a
magnitude--.

Re. Claim 3: The phrase "the ABS" as recited in lines 3-4 appears to be --an
ABS--. Appropriate correction is required.

Re. Claims 2-8: Change the phrase "A method" to --The method--.

Claim Rejections - 35 USC § 102

6. Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by
Lin et al. (US PAT. 6,175,475).

Lin et al. teach a process of manufacturing a spin valve sensor comprising steps
of: placing the sensor (400) in an external magnetic field as shown in Fig. 4; adjusting a
magnitude of the magnetic field (412) to cause the magnetization of a ferromagnetic
layer (420) in a bias tabs (415, 420, 430) to be substantially perpendicular (422) to the
direction of the magnetic field; heating the sensor above a blocking temperature of both

of the antiferromagnetic layers; and, cooling the sensor below the blocking temperature of both of the antiferromagnetic layers in the presence of said magnetic field (see also col. 5, line 1 to col. 6, line 24).

As per claim 2 the heating and cooling are performed in a single sequence (equivalent with heating and then cooling the antiferromagnetic layers).

As per claim 7 a second antiferromagnetic layer (432) and the free layer (410) have substantially the same width as shown in Fig. 4.

As per claim 8 the first (430) and second (432) antiferromagnetic layers have substantially the same composition (NiO).

7. Claims 1, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Huai et al. (US PAT. 6,381,105).

Huai et al. teach a process of manufacturing a spin valve sensor comprising steps of: placing the sensor (16) in an external magnetic field as shown in Figs. 3 and 8; adjusting a magnitude of the magnetic field (I_s) to cause the magnetization of a ferromagnetic layer (41) in a bias tabs (41-43) to be substantially perpendicular to the direction of the magnetic field (I_s) as shown in Fig. 5A; heating the sensor above a blocking temperature of both of the antiferromagnetic layers; and, cooling the sensor below the blocking temperature of both of the antiferromagnetic layers in the presence of said magnetic field (see also col. 2, line 66 to col. 7, line 35).

As per claim 7 a second antiferromagnetic layer (47 or 96) and the free layer (44 or 74) have substantially the same width as shown in Fig. 5A or Fig. 8.

As per claim 8 the first (94) and second (96) antiferromagnetic layers have substantially the same composition (NiFe).

Allowable Subject Matter

8. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


9. The prior art of record fails to disclose the claimed invention such as a direction of the magnetic field during the single sequence of heating and cooling is not oriented in a direction parallel to the ABS (as per claim 3), the magnetic field is varied from a start value to an optimum value during the single sequence of heating and cooling in the magnetic field (as per claim 4), and the magnetic field is increased above the optimum value and then reduced to the optimum value during the single sequence of heating and cooling in the magnetic field (as per claims 5 and 6). It is not obvious taken alone or in combination of other references fairly to suggest the claimed invention.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Friday between 8:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Paul D Kim
Examiner
Art Unit 3729